



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,918	12/01/2003	Masao Ikeda	09792909-5764	3150

26263 7590 02/03/2005

SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

WILLIAMS, JOSEPH L

ART UNIT PAPER NUMBER

2879

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,918

Applicant(s)

IKEDA, MASAO

Examiner

Joseph L. Williams

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The response filed on 15 November 2004 (including the remarks filed on 14 October 2004) have been received and entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 16-26, 28, 29, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hofstetter et al. (US 6,136,623).

Regarding claim 16, Hofstetter ('623) teaches in figures 6-7 and in column 9, line 18 through column 10, line 14, a light emitting device comprising a supporting base with insulation, a first light emitting element (on the bottom) being provided on one face of the supporting base, and having a first substrate with insulation, the first substrate being transparent in the visible region; and a second light emitting element being provided on the side of the first light emitting element opposite to the supporting base, and having a second substrate.

Regarding claim 17, Hofstetter ('623) teaches the first and second light emitting elements can emit light of different wavelengths (red and blue).

Regarding claim 18, Hofstetter ('623) teaches in column 6, lines 20-30 that the first light-emitting element has a semiconductor layer containing at least one of Group 3B elements and at least nitrogen (N) from Group 5B elements.

Regarding claim 19, Hofstetter ('623) teaches that the substrate is made sapphire (column 6, lines 19-20).

Regarding claim 20, Hofstetter ('623) teaches that the first light-emitting element has a light emitting portion on the first substrate on the side thereof on which the supporting base is disposed.

Regarding claim 21, Hofstetter ('623) teaches the second light emitting element has a light-emitting portion on the second substrate on the side thereof on which the first light-emitting element is disposed.

Regarding claim 22, Hofstetter ('623) teaches the first and second light emitting elements can emit light of different wavelengths (red and blue).

Regarding claim 23, Hofstetter ('623) teaches the second light emitting element has an individual electrode per each of the plurality of light emitting portions.

Art Unit: 2879

Regarding claim 24, Hofstetter ('623) teaches the second light emitting element has a semiconductor layer containing at least Ga and As.

Regarding claim 25, Hofstetter ('623) teaches the second light emitting element has a semiconductor layer containing at least Ga and As.

Regarding claim 26, Hofstetter ('623) teaches the second light emitting element has a semiconductor layer containing at least indium and phosphorous.

Regarding claim 28, Hofstetter ('623) teaches, similar to claim 16 above, an optical device having a light emitting device, the light emitting device comprising: a supporting base with insulation; a first light emitting element being provided on one face of the supporting base, and having a first substrate with insulation, the first substrate being transparent in the visible region; and a second light emitting element being provided on the side of the first light emitting element opposite to the supporting base, and having a second substrate.

Regarding claim 29, Hofstetter ('623) teaches, similar to claim 16 above, a method of manufacturing a light emitting device comprising the steps of: forming a first light emitting element on a front face of a first substrate with insulation being transparent in the visible region, and then forming a first wire on a rear face of the first substrate, bonding the first light emitting element formed on the first substrate to a supporting base

Art Unit: 2879

with insulation on which a second wire is formed so that the light emitting element is electrically connected to the second wire; and bonding a second light emitting element having a second substrate to the first wire on the first substrate so that the second light emitting element is electrically connected to the first wire on the first substrate.

Regarding claim 30, Hofstetter ('623) teaches the first light emitting element has a light emitting portion on the first substrate on the side thereof on which the supporting base is disposed.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hofstetter et al. (US 6,136,623) in view of Kukimoto et al. (US 5,140,385), of record.

Regarding claim 27, Hofstetter ('623) teaches all of the above limitations except for the second light emitting layer containing at least one element selected from the group of Group 2A or 2B elements consisting of zinc, cadmium, mercury, beryllium and magnesium, and at least one element selected from the group of Group 6B elements consisting of sulfur, selenium, and tellurium.

Art Unit: 2879

Further regarding claim 27, Kukimoto ('385) teaches in column 1, lines 31-38 a light-emitting device comprised of a semiconductor layer of ZnSSe for the purpose of emitting blue or green light.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the semiconductor layer of Kukimoto in the device of Hofstetter for the purpose of emitting blue or green light.

Response to Arguments

3. Applicant's arguments filed 14 October 2004 have been fully considered but they are not persuasive.

The Applicant has argues that the Hofstetter ('623) reference does not teach or disclose "a supporting base with insulation" as claimed, in particular.

The Examiner respectfully disagrees and wishes to point out the use of sapphire as an insulating substrate is known in the art. Please refer to Lehovec et al. (US 3,704,376), in particular column 4, lines 49-52 and also Pankove (US 3,864,592), in particular column 2, lines 9-14, both being made of record.

Therefore, it is the opinion of the Examiner that Hofstetter ('623) does disclose "a supporting base with insulation" as claimed.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 3,704,376 and US 3,864,592.

Art Unit: 2879

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

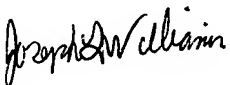
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2879

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Joseph L. Williams
Primary Examiner
Art Unit 2879